

other question of science properly so called. And equally of course nomenclature can never be definitely settled. But its puerile and yet forbidding aspect can be vastly altered for the better.

Is there any real practical difficulty in the way of doing all I have suggested and doing it at once? Emphatically *no*! Men more trained to cooperation than scientific men—business men, administrators, lawyers, politicians—would have done it long ago.

FRANCIS N. BALCH

JAMAICA PLAIN,
May 21, 1909

PERSONAL NAMES AND NOMENCLATURE

THE use of personal names in nomenclature which has been somewhat criticized by various correspondents is perhaps defensible under certain circumstances. While its objections in many instances have been pointed out yet the absurdity of the practise becomes strikingly apparent when one notes such a paper as that on Paleozoic Ostracods in a recent volume of the Proceedings of the National Museum. In all, sixteen generic names are used in the article; nine of these are old and seven new. Among the old names, five are certainly personal in origin, four may not be, although two of these probably are. Among the seven new names, absolutely every one is personal. Either this indicates an extraordinary number of distinguished men in this field or an unfortunate lack of mental energy on the part of the authors.

X

SIR WILLIAM GAIRDNER'S PAPERS

TO THE EDITOR OF SCIENCE: In response to the wishes of Lady Gairdner and her family, I have undertaken to edit the medical and scientific papers and articles of the late Sir William Tennant Gairdner, and to preface the collection with a biography.

In order to render the work as worthy as possible of the memory of the late professor, I am desirous of enlisting the sympathy and help of his friends. I venture therefore to request through your columns that any one who has in his possession any letters or other

literary remains of Sir William Gairdner will be so kind as to communicate with me.

G. A. GIBSON

3 DRUMSHEUGH GARDENS,
EDINBURGH,
May 12, 1909

SCIENTIFIC BOOKS

The Book of Wheat. By PETER TRACY DONDINGER, Ph.D., formerly Professor of Mathematics in Fairmount College. With 60 illustrations. Pp. xi + 369. New York, Orange Judd Company; London, Kegan Paul, Trench, Trübner & Co., Limited. 1908.

When we think of the great importance of the cereal wheat in the food economy of nations it is surprising that there has not been more written on the subject. The book now before us is something that might well have been looked for years ago. The author has furnished portions of his manuscript at different times to the writer of this review, and the latter has, therefore, known something of what was to be expected in the book itself.

Naturally a writer is likely to give more prominence, in discussing a subject, to those features with which he has come most often in daily contact, and so in this instance there is proportionately not as much space given to the discussion of wheat as a plant as to the milling operations, the commercial and economical position, etc. The work is particularly lacking in its presentation of wheat classification, discussion of varieties and other matters of botanical and agronomic interest. On the other hand, there is a very full discussion of the machinery for harvesting and threshing, crop rotations, fertilizers, marketing, milling, prices, movement and consumption. A commendable feature, also, is the addition of a very complete bibliography, though it must be said that the proof-reading of this bibliography was very faulty.

Considerable attention is also properly given to the topic of diseases and insect enemies.

In making use of the map (page 9) showing wheat distribution, which was formerly published by the U. S. Department of Agricul-

ture, it is unfortunate that the author did not so change it, in accordance with the suggestion of the writer, as to put the durum wheat district in its correct position. This area, however, is properly shown in another map on page 48. Not long after the publication of the first map by the U. S. Department of Agriculture events occurred in the establishment of durum wheat which greatly changed the boundaries of the district.

Because of the lack of special observation and training in particular lines the author is led into making a few peculiar statements, some of which are not well founded; for example, the statement on page 48: "Common bread wheats are usually grown on black soils. These soils are not well adapted to fall wheat, however, for it is apt to winterkill." There is no good reason for this statement, with the possible exception that black soils are often heavy and therefore apt to bake and crack open, thereby exposing the crown and roots to the winter's cold, but even then rolling the ground is a simple remedy. As a matter of fact, winter wheat is very commonly grown on just such soils.

Also, on page 51, it is not clear why the author should say: "Winter wheat may be sown in spring and spring wheat in the fall. Only a very few plants will ripen seed, but when this is continuously sown, *in three years the spring variety will be changed to the winter, and vice versa.*" (Italics are the reviewers.) There are only certain varieties, already on the border of these two groups, that we are yet certain can be thus changed at all, and even these are likely to require much more than three years to become completely adaptable in the other group.

There is a slight inaccuracy in the first paragraph on page 56, which, however, in this case is rather important, as it refers to the introduction of the present hard winter wheat, called here "red winter wheat," from Russia into Kansas. The Department of Agriculture did not, as there mentioned, originally introduce the wheat, but later took active part in extending the area by further importations; it appears that Russian Mennonites first brought the wheat to Kansas.

On pages 121 and 122, after describing the extensive immigration into the Great Plains region and the rapid settlement of that area, saying: "The 'Great American Desert' disappeared from the maps," and "During a series of years in which the rainfall was more adequate than usual, the agricultural areas leaped forward to the west from county to county," the reader is suddenly brought against a fall of cold water by the statement that "Yet the blunt fact remained, and still remains, that many millions of acres were dead, vacant, and profitless simply because of their aridity. This land has little value now, for in many places a whole section does not yield enough to keep a fleet-footed sheep from starving." Without any question much has been said that is extreme on both sides of this question of just how profitable may be the cultivation of these semiarid lands, but doubtless there is a sane, medium ground to be taken. It is certain that, as a rule, much more may be produced than is sufficient "to keep a fleet-footed sheep from starving," but, on the other hand, the proper cultivation of such districts is in no way child's play. No doubt fair average results can be obtained, but the farming must be done by the most intelligent, up-to-date methods.

Under the discussion of milling operations we have, on page 272, the same old diagram of a large flour mill which has been used in various other publications, but which would not be at all an accurate presentation of our present-day, improved mills.

After these statements of some imperfections, of which it must be admitted there do not seem to be many, the author is to be commended for the ample presentation he makes of certain phases of wheat handling, giving a particularly full discussion of the marketing, price and movement of wheat, including dealings on boards of trade, speculation, grain privileges, delivery, etc. There is considerable discussion, also, of storage, grain elevators, the method of bagging on the Pacific Coast, etc.

The book is rather fully illustrated, particularly along commercial lines. It is a book that will be extremely useful not only to busi-

ness men but as a reference work in schools and colleges.

MARK ALFRED CARLETON

U. S. DEPARTMENT OF AGRICULTURE

BOTANICAL NOTES

GENERAL NOTES

ONE of the most interesting of the popular bulletins issued by the United States Department of Agriculture is that on "The Basket Willow" (Farmers' Bulletin 34) prepared by W. F. Hubbard, of the Forest Service. It appears that the growing of basket willows was introduced into the United States about sixty years ago by German immigrants who settled in New York and Pennsylvania. It has now extended south and west and is rapidly spreading over the non-arid regions of the far west. Three species are commonly grown for this purpose, viz., *Salix amygdalina*, *S. purpurea* and *S. pruinosa acutifolia*, and in the bulletin the peculiarities of each are given. How to plant, how to prune and care for the young trees, how to cut and peel the rods, and finally how to prepare them for the market are described in a most interesting manner. Every botanist who is interested in the economic aspects of his science will find this pamphlet worth reading.

Botanists of an ecological turn of mind will find in A. W. Sampson's paper on "The Revegetation of Over-grazed Range Areas" (Circular 158, U. S. Forest Service) an example of how ecology may have some intensely practical applications. In the Wallowa National Forest in northeastern Oregon the sheep owners overgrazed the land, and it became necessary to study the problem of the restoration of the pastures to their original condition. At first this would seem to be an agricultural problem, but its solution called for "an expert in plant ecology (Mr. Sampson) and in the last analysis the problem becomes an ecological one. The paper is commended to ecologists for careful study.

Another agricultural bulletin of high botanical interest is L. H. Smith's on "The Effect of Selection upon Certain Physical Characters of the Corn Plant" (Bull. 132, Ill. Expt. Station) in which are given the results of experiments in breeding corn (maize) with

reference to (1) the height of the stalk, and (2) the declination of the ear from the stalk. By starting with a particular variety of corn and breeding in opposite directions in the fifth generation the average heights of the ears on the stalks are three feet apart. In part this is due to the increased height of the whole plant on one hand, and the decreased height on the other, but it is due still more to the appearance of the ears from higher or lower internodes. Thus the average number of internodes below the high-eared corn was $8\frac{1}{2}$, while the average for the low-eared corn was $6\frac{1}{2}$, and this was reduced to a little more than $4\frac{1}{2}$ in the last generation. Apparently one may breed the ears down to the ground, or up out of reach.

Here may be mentioned W. T. Macoun's "List of Herbaceous Perennials Tested in the Arboretum and Botanic Garden of the Central Experimental Farm at Ottawa, Canada," which contains an astonishingly large number of species (over 2,100), when one thinks of how far north they were grown.

Under the title "The Distribution of Woody Plants in the Pikes Peak Region" Professor E. C. Schneider enumerates 115 species, giving altitudes, distribution and descriptive notes. It is printed in the Colorado College Publication (Vol. XII., Science Series). Fifteen conifers are enumerated, five poplars, fourteen willows, six oaks, etc.

Much more ecological in nature is Professor Ramaley's "Studies in Lake and Streamside Vegetation" (*Univ. Colo. Studies*, Vol. VI.), which deals with the plants of Redrock Lake near Ward, Colo., at an altitude of over 10,000 feet above sea-level. It is, we are told, the first of a series of similar papers. It is beautifully illustrated by many half-tone reproductions of photographs.

That the botanists of Colorado are active is shown by the foregoing, and also by the following titles of recent papers in the *University of Colorado Studies* (Vol. VI.): "Botanical Opportunity in Colorado," by Professor Ramaley; "Studies in Mesa and Foothill Vegetation" (including the "Distribution of Conifers (4 species only) on the Mesas," by